



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket: 990471U2

*SA*  
*Coper*  
*1-7-03*

Re Application of: Nathan G. Clark, et al.

Attorney Docket: 990471U2

Serial No.: 09/810,792

Group Art Unit: 3641

Filed: March 16, 2001

Examiner: Nelson, Peter A.

For: **OIL WELL PERFORATOR LINER WITH  
HIGH PROPORTION OF HEAVY METAL**

**RESPONSE TO OFFICE ACTION OF MAY 29, 2002**

Assistant Commissioner for Patents  
Box Non-Fee Amendments  
Washington, DC 20231

**RECEIVED**  
DEC 06 2002  
**GROUP 3641**

Sir:

In response to the Office Action mailed May 29, 2002, a request for extension of time being filed herewith, please amend the application as follows:

In the Claims:

✓ Cancel Claims 23 and 24.

Claim 1. (Amended) A [liner for a] shaped charge comprising:  
a casing for a shaped charge;  
an explosive material disposed within the casing having a cavity formed therein; and  
a mixture of powdered heavy metal and powdered binder metal [formed into a rigid body] wherein  
the percentage of heavy metal in the mixture is within a range of approximately [90.0%] 91.0% to 99.98% by weight.

Claim 2. (Amended) A [liner for a] shaped charge according to claim 1 wherein  
the heavy metal powder is chosen from the group consisting of tungsten, tantalum, [hafnium, silver,] gold, platinum, [copper,] or any mixture thereof.

Claim 3. (Amended) A [liner for a] shaped charge according to claim 1 wherein  
the heavy metal consists [essentially] primarily of tungsten.